REFERENCES 75

[12] Bytecode Alliance, "Bytecode Alliance." https://bytecodealliance.org/, 2019.

- [13] "Webassembly system interface." https://github.com/WebAssembly/WASI, 2021.
- [14] D. Lehmann, J. Kinder, and M. Pradel, "Everything old is new again: Binary security of webassembly," in 29th USENIX Security Symposium (USENIX Security 20), USENIX Association, Aug. 2020.
- [15] Q. Stiévenart, C. De Roover, and M. Ghafari, "Security risks of porting c programs to webassembly," in *Proceedings of the 37th ACM/SIGAPP Symposium on Applied Computing*, SAC '22, (New York, NY, USA), p. 1713–1722, Association for Computing Machinery, 2022.
- [16] T. Rokicki, C. Maurice, M. Botvinnik, and Y. Oren, "Port contention goes portable: Port contention side channels in web browsers," in *Proceedings of the 2022 ACM on Asia Conference on Computer and Communications Security*, ASIA CCS '22, (New York, NY, USA), p. 1182–1194, Association for Computing Machinery, 2022.
- [17] D. Genkin, L. Pachmanov, E. Tromer, and Y. Yarom, "Drive-by key-extraction cache attacks from portable code," *IACR Cryptol. ePrint Arch.*, vol. 2018, p. 119, 2018.
- [18] G. Maisuradze and C. Rossow, "Ret2spec: Speculative execution using return stack buffers," in *Proceedings of the 2018 ACM SIGSAC Conference on Computer and Communications Security*, CCS '18, (New York, NY, USA), p. 2109–2122, Association for Computing Machinery, 2018.
- [19] M. Musch, C. Wressnegger, M. Johns, and K. Rieck, "Thieves in the browser: Web-based cryptojacking in the wild," in *Proceedings of the 14th International Conference on Availability, Reliability and Security*, ARES '19, Association for Computing Machinery, 2019.
- [20] E. Tekiner, A. Acar, A. S. Uluagac, E. Kirda, and A. A. Selcuk, "In-browser cryptomining for good: An untold story," in 2021 IEEE International Conference on Decentralized Applications and Infrastructures (DAPPS), pp. 20–29, 2021.
- [21] R. K. Konoth, E. Vineti, V. Moonsamy, M. Lindorfer, C. Kruegel, H. Bos, and G. Vigna, "Minesweeper: An in-depth look into drive-by cryptocurrency mining and its defense," in *Proceedings of the 2018 ACM SIGSAC Conference on Computer and Communications Security*, pp. 1714–1730, 2018.
- [22] A. Romano, Y. Zheng, and W. Wang, "Minerray: Semantics-aware analysis for ever-evolving cryptojacking detection," in *Proceedings of the 35th*

76 REFERENCES

IEEE/ACM International Conference on Automated Software Engineering, pp. 1129–1140, 2020.

- [23] F. N. Naseem, A. Aris, L. Babun, E. Tekiner, and A. S. Uluagac, "Minos: A lightweight real-time cryptojacking detection system.," in *NDSS*, 2021.
- [24] W. Wang, B. Ferrell, X. Xu, K. W. Hamlen, and S. Hao, "Seismic: Secure inlined script monitors for interrupting cryptojacks," in *Computer Security:* 23rd European Symposium on Research in Computer Security, ESORICS 2018, Barcelona, Spain, September 3-7, 2018, Proceedings, Part II 23, pp. 122–142, Springer, 2018.
- [25] J. D. P. Rodriguez and J. Posegga, "Rapid: Resource and api-based detection against in-browser miners," in *Proceedings of the 34th Annual Computer Security Applications Conference*, pp. 313–326, 2018.
- [26] A. Kharraz, Z. Ma, P. Murley, C. Lever, J. Mason, A. Miller, N. Borisov, M. Antonakakis, and M. Bailey, "Outguard: Detecting in-browser covert cryptocurrency mining in the wild," in *The World Wide Web Conference*, pp. 840–852, 2019.
- [27] H. Okhravi, M. Rabe, T. Mayberry, W. Leonard, T. Hobson, D. Bigelow, and W. Streilein, "Survey of cyber moving targets," Massachusetts Inst of Technology Lexington Lincoln Lab, No. MIT/LL-TR-1166, 2013.
- [28] F. B. Cohen, "Operating system protection through program evolution.," Computers & Security, vol. 12, no. 6, pp. 565–584, 1993.
- [29] S. Forrest, A. Somayaji, and D. Ackley, "Building diverse computer systems," in *Proceedings. The Sixth Workshop on Hot Topics in Operating Systems (Cat. No.97TB100133)*, pp. 67–72, 1997.
- [30] M. Eichin and J. Rochlis, "With microscope and tweezers: an analysis of the internet virus of november 1988," in *Proceedings. 1989 IEEE Symposium on Security and Privacy*, pp. 326–343, 1989.
- [31] J. Cabrera Arteaga, "Artificial software diversification for webassembly," 2022. QC 20220909.
- [32] A. Rossberg, B. L. Titzer, A. Haas, D. L. Schuff, D. Gohman, L. Wagner, A. Zakai, J. F. Bastien, and M. Holman, "Bringing the web up to speed with webassembly," *Commun. ACM*, vol. 61, p. 107–115, nov 2018.
- [33] D. Bryant, "Webassembly outside the browser: A new foundation for pervasive computing," in *Proc. of ICWE 2020*, pp. 9–12, 2020.
- [34] B. Spies and M. Mock, "An evaluation of webassembly in non-web environments," in 2021 XLVII Latin American Computing Conference (CLEI), pp. 1–10, 2021.